

wound still suppurated, and there was no trace of consolidation. During two months longer the ordinary apparatus was applied, but did not hasten consolidation. M. Jobert then passed a seton between the two fragments, but instead of leaving it five or six weeks, as Physick and others have done, he only let it remain eight days. A month afterwards consolidation was completed. Experience has shown that in some cases, the seton has left after its passage organized fistulæ incapable of cicatrization, which maintain the mobility of the bone. Sometimes these passages border on portions of bone denuded by the seton. But when the seton is only left during eight days, it irritates the periosteum, and the inflammation of this latter brings the deposit of a sufficient quantity of osseous matter to effect consolidation.—*Brit. and For. Med. Rev., from Gaz. Méd. de Paris, Sept. 5, 1840.*

38. *Apparatus for applying water in the manner of irrigation.*—Dr. JAMES MACARTNEY has devised an ingenious apparatus for this purpose, by means of which water of any requisite temperature can be employed, and conveyed underneath the bedclothes. The apparatus consists of a box made of zinc, something like a fracture-box, in which either the upper or the lower extremity of the patient may be placed. The water, or a medicated fluid, is carried in a flat tube, which at one end is connected with a reservoir, and the other end projects through a slit in the upper edge of the box. The tube contains a strip of coarse woollen cloth, which is broad at one end and pointed at the other. The broad end is received by the vessel that contains the fluid, and the pointed end either rests upon the dressings of the affected part, or is suspended immediately over them. The water is taken up by the strip of cloth, and carried along it on the principle of capillary attraction, or in the manner of a syphon; and thus a continued supply of water is conducted to the part affected, without inconvenience or exposure to the patient. In order to get rid of the fluid, there is a concave bottom, perforated with large holes, through which the fluid passes into the inferior part of the box, and from which it is conveyed by a tube into any vessel that may be placed outside the bed for the purpose of receiving it. The perforated bottom, for the sake of cleanness, is made to take out; and there is a soft cushion, covered with painted linen, on which the limb rests, and consequently the whole is not kept wet.

The quantity of fluid which may pass can be regulated by placing the vessel or reservoir containing the water either higher, or on the same plane as the patient's bed. If placed high, so much as three gallons of fluid may be supplied in the course of twenty-four hours. If warm water be required, as in cases of strains and lacerated wounds, the temperature of the reservoir may be kept up by means of a spirit lamp.—*Prov. Med. and Surg. Journ., July 31, 1841.*

39. *Chloride of Zinc in Necrosis.*—The difficulty of penetrating the hardened case of new bone when long formed, is too well known to require any comment; and it not unfrequently happens that any attempt to reach the sequestrum is either rendered abortive thereby, or occasions such a degree of disturbance to the whole shaft, as to produce more harm than good. Mr. Guthrie, to whom I allude, has availed himself of the peculiar properties of a remedial agent recently introduced (to which I shall again have occasion to refer)—the chloride of zinc, which, attacking the animal tissue of the bone, destroys it, and thus causes the earthy matter to soften and become detached. The sequestrum is by this means exposed with little pain or disturbance of the part, and may be dealt with according to circumstances. To the success of this plan I can myself most willingly testify.—*Med. Chirurg. Rev., July 1840.*—From MR. JAMES'S *Retrospective address before Prov. Med. and Surg. Association.*

40. *Threads of Caoutchouc for Sutures.*—THOMAS NUNNELEY Esq., of Leeds, recommends the employment of threads of caoutchouc for sutures. The advantages which this substance possesses, he observes, are "the much longer time it remains without producing irritation of any kind; being elastic, it holds the divided parts in contact with much less stretching, in a more natural manner,

and, at the same time, it keeps up an equal degree of temper; for if the parts swell, the ligature gives way in proportion to the pressure; on the contrary, do they contract, so also does the ligature, and an equable approximation is maintained. From being smooth and unirritating, it excites so little disturbance that a greater number of ligatures may be introduced, and thus the parts may be more accurately adjusted to each other; moreover, by not inducing ulceration, the scars left after its withdrawal are less than those produced by silk, are advantages not to be lost sight of in operations about the face and neck.

"Though I have not had an opportunity of trying the caoutchouc ligatures in operations for hare-lip, I am disposed to think they might supersede the twisted suture, and thus obviate the introduction of pins, which always leave marks.

"In employing the caoutchouc thread, it should be borne in mind that, when put upon the stretch, even to a slight degree, they become much more slender than when perfectly relaxed: consequently this must be allowed for, by selecting a thread which is somewhat thicker than would otherwise be chosen. The ligature should be slightly smeared with oil, when it will pass with the greatest freedom; but care should be taken not to employ too much of that material, otherwise the knot will be liable to slip.

"In tying the ligature, care must be taken to draw it so tight that the lips of the wound shall be retained in accurate apposition without making any stress upon the string; the ends should be knotted three or four times, to prevent any danger of their giving way; this will be more effectually prevented, if, in making the first knot, the cord be twice twisted, as many are in the habit of doing with the common thread ligature.

"I need scarcely add, that the very qualities which render the caoutchouc thread preferable for sutures for wounds, totally unfit it as ligatures for vessels, where a sharp *unelastic* string is necessary for first dividing the inner coats, and subsequently retaining them in contact."

The threads of caoutchouc Mr. N. has obtained from the elastic web so commonly employed for suspenders, &c. stripping them of their silk or cotton envelope.—*Lancet*, 13th March, 1841.

41. *Irregularly-united fracture cured by excision of Callus.*—Case I.—F. Mistretta, 32 years of age, was admitted into the hospital of Palermo, on the 20th of April, 1837, with compound fracture of both bones of the leg. After the use of antiphlogistic remedies, the limb was placed in Scultetus's apparatus, but numerous abscesses formed, and the frequent dressing rendered it impossible to keep the limb at rest. The consequence was, that the bones united at an angle; an attempt was made, but fruitlessly, to break the callus. M. Portal, therefore, resolved on excising the angular portion of bone, and on the 23d of May removed about an inch with the chain-saw. The wound united by the first intention, and the limb was kept at rest for forty days. The patient was quite well on the forty-eighth day, and left the hospital with slight shortening of the foot, which was easily concealed by a shoe.

Case II.—Grazia Sinelli was admitted into the civil hospital, on the 16th of November, 1840, with fracture of the upper third of the thigh. The superior fragment projected through the integuments; the limb was enormously swollen, tongue dry, thirst great; the patient, who was drunk, could not be kept quiet. She was bled from the arm, and one hundred leeches were applied to the thigh, to prevent gangrene. When the inflammation was reduced, Boyer's splint was applied, and allowed to remain on for twenty-eight days; it had, however, been frequently displaced by the patient, and on taking it off, it was found that the fracture was united at an angle. Here, as in the former case, it was found impossible to break the bone again; hence, resection was had recourse to on the 26th of December, 1840. A vertical incision, about four inches long, having been made in the integuments, and the muscles separated, an inch and a half of the superior extremity, and half an inch of the inferior one, were removed with the chain-saw. No bad symptoms occurred after the operation, and on the fifty-fifth day the patient left the hospital with a shortened but useful limb.—*Prov. Med. and Surg. Journ.* August 28, 1841, from *Fil. Sebezio et Exam. Med.*